

ABSTRACT OF THE INVENTION

A seat mounting structure is disclosed for reducing injury to vehicle occupants in side impact collisions. The seat mounting structure may include an inflation module, a linkage system, a sensor system, and a side airbag. The inflation module may include an inflatable structure and inflator or a piston device. The linkage system attaches the seat mounting structure to a seat and may help guide the movement of the seat. The sensor system may include a radar sensor and an optical sensor to help the sensor system anticipate an impending side impact. The seat mounting structure mitigates injury to the occupant by moving the occupant vertically up and laterally toward a centerline of the vehicle, thus increasing the space between the sidewall of the vehicle and the occupant. Additionally, the inflation module may comprise an inflatable structure that stiffens a floor structure of the vehicle upon inflation.